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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,582	10/30/2003	Uwe Kubach	13909-141001 / 2003P00692	7223
32864	7590	02/15/2008	EXAMINER	
FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			CHAMPAGNE, LUNA	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,582	<b>Applicant(s)</b> KUBACH ET AL.	
	<b>Examiner</b> LUNA CHAMPAGNE	<b>Art Unit</b> 3627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/18/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 6, 19, 20 are objected to because of the following informalities: Claim 6 depends on claim 4, however, the claims do not address the same limitation.

Similarly, claims 19 and 20 depend on claim 1 “the computer program product of claim 1”, while claim 1 does not address a computer program product. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 13-16, 18, 21, 30, 31 are rejected under 35 U.S.C. 102(e) as being unpatentable by Cowe et al. (5,671,632).

Re claims 1, 21, Cowe et al. teach a method/ computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to load monitoring comprising: monitoring an initial state output signal generated by one or more load sensors positioned about a load storage device ( *provide sensor information for generating a first inventory map of said product items stored in said storage volume at a point in time*);

monitoring a current state output signal generated by the one or more load sensors  
(*generate a subsequent inventory map*);

and comparing the initial and current state output signals to determine changes in a  
load positioned upon the load storage device (*compare said first and previous inventory  
maps*) (See e.g. col. 3, lines 9-24).

Re claims 13, 30, Cowe et al. teach a method further comprising establishing a  
current state model for the load storage device during a loaded state of the load storage  
device (See e.g. col. 5, lines 28-34).

Re claims 14, 31, Cowe et al. teach a method further comprising updating the  
current state model pursuant to changes in the load positioned upon the load storage  
device (See e.g. col. 24, lines 54-56).

Re claim 15, Cowe et al. teach a method further comprising positioning the load  
sensors about the load storage device (See e.g. col. 9, lines 51-57).

Re claim 16, Cowe et al. do not explicitly teach the claimed limitations. However,  
Cowe et al. teach a similar feature (see e.g. col. 9, lines 17-24). Therefore It would  
have been a design choice to include the step wherein the load storage device is  
generally rectangular in shape and positioning the load sensors includes positioning one

Art Unit: 3627

load sensor proximate each corner of the load storage device, in order to accommodate specific storage requirements.

Re claim 18, Cowe et al. teach a method wherein the load storage device is chosen from a group consisting of: a pallet; a shelf; a table, a bin, and a shipping container (See *e.g. col. 5, lines 14-20*).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-9, 12, 19, 20, 22-27, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,632), in view of McPherson et al. (4,674,605).

Re claims 2, 3, 22, 23, Cowe et al. do not explicitly teach a method comprising establishing an empty state model for the load storage device during an empty state in which the load storage device does not contain any load; further comprising: modifying the empty state model to generate a current state model pursuant to changes in the load positioned upon the load storage device, wherein the current state model defines the load positioned upon the load storage device during a loaded state.

However, McPherson et al. teach a method comprising establishing an empty state model for the load storage device during an empty state in which the load storage device does not contain any load; further comprising: modifying the empty state model to generate a current state model pursuant to changes in the load positioned upon the load storage device, wherein the current state model defines the load positioned upon the load storage device during a loaded state (*See e.g. col. 1, lines 39-48*).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al. and include the steps cited above, as taught by McPherson et al., in order to provide flexibility in ways of generating a current state

Re claims 4, 24, Cowe et al. teach a method further comprising: maintaining an item database that includes a definition for one or more items potentially included in the load positioned upon the load storage device, wherein the definition of each item includes one or more parameters that define the item (*See e.g. col. 3, lines 1-4*).

Re claim 5, Cowe et al. teach a method wherein the one or more parameters are chosen from the group consisting of: item name, item part number, product quantity per item, item weight, item height, item width, and item depth (*See e.g. col. 9, lines 56, col. 10, lines 29-32, col. 23, lines 34, 59-60*).

Re claims 6, 25, Cowe et al. teach a method wherein modifying the empty state model includes adding one or more items to the empty state model (*See e.g. col. 24, lines 14-22*).

Re claims 7, 26, Cowe et al. teach a method further comprising updating the current state model pursuant to changes in the load positioned upon the load storage device (*See e.g. col. 24, lines 54-56*).

Re claim 8, Cowe et al. teach a method wherein updating the current state model includes adding or removing one or more items to or from the current state model (*See e.g. col. 17, lines 38-41*).

Re claims 9, 27, McPherson et al. teach a method wherein comparing the initial and current state output signals includes determining a net load change in the load positioned upon the load storage device (*See e.g. col. 3, lines 1-5*).

Re claims 19, 20, 32, 33, McPherson et al. teach a computer program wherein the initial state is an empty state or a loaded state; wherein the current state is an empty state or a loaded state (*See e.g. col. 2, lines 6-8, col. 3, lines 1-15*).

Art Unit: 3627

6. Claims 10-12, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,632), in view of McPherson et al. (4,674,605), in further view of Official Notice.

Re claims 10, 11, 28, 29, Cowe et al., in view of McPherson, do not explicitly teach a method wherein comparing the initial and current state output signals further includes comparing the determined net load change to the item weight of one or more of the items potentially included in the load ;and selecting, from the one or more items potentially included in the load, a chosen item that corresponds to the determined net load change.

However, it is common in the art to compare the new load weight with the newly loaded item weight and also It is also common to select an item of interest from the load.

Therefore, the Examiner takes Official Notice that it would have been obvious to a person of ordinary skill in the art to compare weights and select items in order to justify and verify the change in load. For example, it is a way to identify and retrieve an item that has been misplaced.

Re claim 12, Cowe et al. teach a method further comprising updating a state model to include the chosen item (*See e.g. col. 24, lines 54-56*).



7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,632), in view of McPherson et al. (4,674,605), in further view of Lysaught (6,450,299).

Re claim 17, Cowe et al., in view of McPherson et al., do not explicitly teach a method wherein positioning the load sensors includes positioning one or more of the load sensors between the load storage device and the surface upon which the load storage device rests.

However, Lysaught teaches a method wherein positioning the load sensors includes positioning one or more of the load sensors between the load storage device and the surface upon which the load storage device rests (*See e.g. col. 3, lines 38-48*).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al., in view of McPherson et al., and include the steps cited above, as taught by Lysaught., in order to provide reading accuracy.

8. Claims 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,632), in view of Christmas (204/0139806 A1).

Re claim 34, Cowe et al. teach a system comprising: a plurality of load sensors positioned to measure a load on a surface and operable to output load signals corresponding to the load (*See e.g. col.7, lines 47-52*);

Cowe et al. do not explicitly teach a database operable to store a plurality of load records, each load record corresponding to an item type; and a load monitoring system

operable to input the load signals and access the database, to thereby output the item type corresponding to the load, based on the load records.

However, Christmas teaches a database operable to store a plurality of load records, each load record corresponding to an item type (*The data carried by the first bar code 40 may be coded information such as the load type, the mass of each individual part making up the load, part number and order number. A memory associated with the processor 30 is pre-programmed with a look-up table containing the weight of each individual item that might be stored in the warehouse. the data is again passed to the processor 30 for processing and is stored in an appropriate memory location to provide a record of the storage location of the load L*);

and a load monitoring system operable to input the load signals and access the database, to thereby output the item type corresponding to the load, based on the load records— *When the*

*load L is being transported the load sensor unit S measures the magnitude of the load in the manner described above and the data is passed to the processor 30 which uses the look-up table to identify the weight per item of the load type that has been read from the bar code. (See e.g. paragraph 0048).*

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al. and include the steps cited above, as taught by Christmas, in order to include automation, better control, accuracy and time management in the system.

Art Unit: 3627

load L is being transported the load sensor unit S measures the magnitude of the load *in the manner described above and the data is passed to the processor 30 which uses the look-up table to identify the weight per item of the load type that has been read from the bar code. (See e.g. paragraph 0048).*

Re claim 35, Cowe et al. teach a system wherein the load monitoring system is further operable to determine a position of the load, relative to the surface, based on the load signals (See e.g. col. 8, lines 41-45).

Re claim 36, Cowe et al. teach a system wherein the load monitoring system is further operable to monitor an initial state output signal generated by the load sensors, monitor a current state output signal generated by the load sensors, and compare the initial and current state output signals to determine changes in the load (See e.g. col. 3, lines 9-24).

Re claim 37, Cowe et al. teach a system wherein the load monitoring system is further operable to recognize an event associated with the load, including an addition to, removal from, or movement on the surface of the load (See e.g. col. 24, lines 15-42).

Re claim 38, Cowe et al. teach a system wherein the load monitoring system is further operable to determine dimensions of the load See e.g. col. 7, lines 31-37).

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wolfson (4,419,734), Carroll et al. (5,986,219).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUNA CHAMPAGNE whose telephone number is (571)272-7177. The examiner can normally be reached on Monday - Friday 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian Zeender can be reached on (571) 272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. Ryan Zeender/  
Supervisory Patent Examiner, Art Unit 3627

Luna Champagne  
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February 6, 2008